

IN THE CLAIMS:

Please amend the claims as indicated below.

1. (Previously Presented) A method for spatially profiling a protein to determine if the
5 protein is a globular protein, the method comprising the steps of:
determining a spatial hydrophobicity distribution of the protein;
shifting the hydrophobicity distribution based on a difference between values in the
hydrophobicity distribution and an average hydrophobicity value;
determining an adjusted second-order moment of hydrophobicity;
10 determining a profile of the second-order moment of hydrophobicity; and
comparing the profile to a globular protein profile to determine if the protein is a globular
protein.
2. (Original) The method of claim 1, wherein the step of shifting the hydrophobicity
15 distribution comprises the step of shifting the hydrophobicity distribution such that a total
hydrophobicity of the protein is zero.
3. (Original) The method of claim 2, further comprising the step of normalizing the shifted
hydrophobicity distribution, thereby causing a standard deviation of the shifted hydrophobicity
20 distribution to be unity.
4. (Previously Presented) The method of claim 1, further comprising the steps of:
determining an adjusted zero-order moment of hydrophobicity;
determining a profile of the adjusted zero-order moment of hydrophobicity;
25 determining a first distance at which a maximum peak of the profile of the adjusted zero-
order moment of hydrophobicity occurs and a first distance at which a maximum peak of the
profile of the adjusted second-order moment of hydrophobicity occurs;

determining a second distance at which the adjusted zero-order moment of hydrophobicity vanishes and a second distance at which the adjusted second-order moment of hydrophobicity vanishes;

~~determining at least one ratio between at least one of the first second-order moment~~

5 distance and the first zero-order moment distance, and the second second-order moment distance and the second zero-order moment distance; and

comparing the at least one ratio to one or more globular protein ratios to determine if the protein is a globular protein.

10 5. (Cancelled)

6. (Previously Presented) The method of claim 1, wherein the step of determining a spatial hydrophobicity distribution of a protein comprises the step of assigning a hydrophobicity value to each of a plurality of residues of the protein.

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21 (Cancelled)

22 (Previously Presented) A system comprising:

a memory that stores computer-readable code; and

20 a processor operatively coupled to the memory, the processor configured to implement the computer-readable code, the computer-readable code configured to:

determine a spatial hydrophobicity distribution of a protein;

shift the hydrophobicity distribution based on a difference between values in the hydrophobicity distribution and an average hydrophobicity value;

25 determine an adjusted second-order moment of hydrophobicity;

determine a profile of the second-order moment of hydrophobicity; and

compare the profile to a globular protein profile to determine if the protein is a globular protein.

23. (Original) The system of claim 22, wherein the computer-readable code is further configured, when shifting the hydrophobicity distribution, to shift the hydrophobicity distribution such that a total hydrophobicity of the protein is zero.

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24. (Original) The system of claim 23, wherein the computer-readable code is further configured to normalize the shifted hydrophobicity distribution, thereby causing a standard deviation of the shifted hydrophobicity distribution to be unity.

10 25. (Previously Presented) The system of claim 22, wherein the computer-readable code is further configured to:

determine an adjusted zero-order moment of hydrophobicity;

determine a profile of the adjusted zero-order moment of hydrophobicity;

15 determine a first distance at which a maximum peak of the profile of the adjusted zero-order moment of hydrophobicity occurs and a first distance at which a maximum peak of the profile of the adjusted second-order moment of hydrophobicity occurs;

determine a second distance at which the adjusted zero-order moment of hydrophobicity vanishes and a second distance at which the adjusted second-order moment of hydrophobicity vanishes;

20 determine at least one ratio between at least one of the first second-order moment distance and the first zero-order moment distance, and the second second-order moment distance and the second zero-order moment distance; and

compare the at least one ratio to one or more globular protein ratios to determine if the protein is a globular protein.

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26. (Cancelled)

27. (Previously Presented) The system of claim 22, wherein the computer-readable code is further configured, when determining a spatial hydrophobicity distribution of a protein, to assign a hydrophobicity value to each of a plurality of residues of the protein.

5 28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

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31. (Cancelled)

32. (Cancelled)

15 33. (Previously Presented) An article of manufacture comprising:

a computer-readable medium having computer-readable code embodied thereon, the computer-readable code comprising:

a step to determine a spatial hydrophobicity distribution of a protein;

20 values in the hydrophobicity distribution and an average hydrophobicity value;

a step to determine an adjusted second-order moment of hydrophobicity;

a step to determine a profile of the second-order moment of hydrophobicity; and

a step to compare the profile to a globular protein profile to determine if the protein is a globular protein.

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34. (Original) The article of manufacture of claim 33, wherein the computer-readable code further comprises, when shifting the hydrophobicity distribution, a step to shift the hydrophobicity distribution such that a total hydrophobicity of the protein is zero.

35. (Original) The article of manufacture of claim 34, wherein the computer-readable code further comprises a step to normalize the shifted hydrophobicity distribution, thereby causing a standard deviation of the shifted hydrophobicity distribution to be unity.

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36. (Previously Presented) The article of manufacture of claim 33, wherein the computer-readable further comprises:

a step to determine an adjusted zero-order moment of hydrophobicity;

a step to determine a profile of the adjusted zero-order moment of hydrophobicity;

10 a step to determine a first distance at which a maximum peak of the profile of the adjusted zero-order moment of hydrophobicity occurs and a first distance at which a maximum peak of the profile of the adjusted second-order moment of hydrophobicity occurs;

a step to determine a second distance at which the adjusted zero-order moment of hydrophobicity vanishes and a second distance at which the adjusted second-order moment of hydrophobicity vanishes;

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a step to determine at least one ratio between at least one of the first second-order moment distance and the first zero-order moment distance, and the second second-order moment distance and the second zero-order moment distance; and

20 a step to compare the at least one ratio to one or more globular protein ratios to determine if the protein is a globular protein.

37. (Cancelled)

25 38. (Previously Presented) The article of manufacture of claim 33, wherein the computer-readable code further comprises, when determining a spatial hydrophobicity distribution of a protein, a step to assign a hydrophobicity value to each of a plurality of residues of the protein.

39. (Cancelled)

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41. (Cancelled)

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42. (Cancelled)

43. (Cancelled)